

## PATENT ABSTRACTS OF JAPAN

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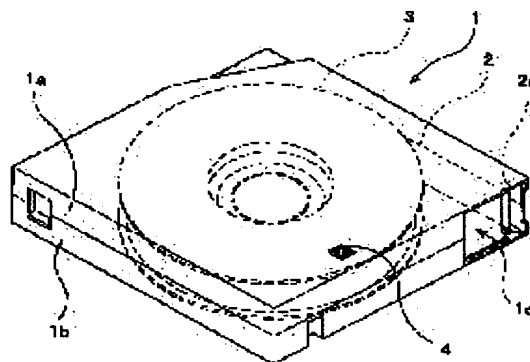
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**(54) MAGNETIC TAPE CARTRIDGE****(57)Abstract:**

**PROBLEM TO BE SOLVED:** To provide such a magnetic tape cartridge with which the appearance of a product including a small and inconspicuous identification display can be assured while the reliability of the quality over the entire part of the product is assured and moreover which obviates the occurrence of erroneous reading in automatic reading of the identification display in a production process step.

**SOLUTION:** This magnetic tape cartridge is formed by freely turnably housing a tape reel 3 wound with a magnetic tape 2 within a cartridge case 1. Two-dimensional codes 4 as the identification display are put to the cartridge case 1.

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**[Claim(s)]**

**[Claim 1]** A magnetic tape cartridge characterized by coming to give said cartridge case a two dimensional code as a discernment display in a magnetic tape cartridge which it comes to hold a reel by which a magnetic tape was looped around in a cartridge case, enabling a free revolution.

**[Detailed Description of the Invention]**

**[0001]**

**[The technical field to which invention belongs]** This invention is used for the record regenerative apparatus of a computer etc., and relates to the magnetic tape cartridge which records voice, an image, a sign, etc. magnetically.

**[0002]**

**[Description of the Prior Art]** As the first conventional magnetic tape cartridge, although not illustrated, in the magnetic tape cartridge which it comes to hold the tape reel around which the magnetic tape was looped in the cartridge case, enabling a free revolution, the thing which comes to print the alphanumeric alphabetic character as a discernment display is in a cartridge case.

**[0003]** Moreover, as the second conventional magnetic tape cartridge, as shown in drawing 4 , in the magnetic tape cartridge which it comes to hold the tape reel 103 around which the magnetic tape 102 was looped in the cartridge case 101, enabling a free revolution, the thing which comes to print the bar code 104 as a discernment display is in a cartridge case 101.

**[0004]** Since the identification information of a proper with an indispensable quality control top is displayed as a discernment display for every volume according to these conventional magnetic tape cartridges, this discernment display is suitably read for every volume by the production process, and the quality can be controlled quality, identifying and specifying a product, and it becomes possible to have and to hold the reliability of the quality of the whole product highly.

**[0005]**

[Problem(s) to be Solved by the Invention] However, although it is necessary in this first magnetic tape cartridge to be printed so that people may read certainly and easily and it may be [ the alphanumeric alphabetic character as a discernment display may be large and ] conspicuous, since the object which performs reading by people is also attached, the appearance of a product including such a discernment display that is large and is conspicuous spoils the design of a product, has a possibility may bar a consumer's attractiveness to consumers, and cannot say that it is desirable.

[0006] Moreover, in the second magnetic tape cartridge, although the bar code 104 as a discernment display differs from the first magnetic tape cartridge at the point attached in order to perform automatic reading by the machine chiefly, it has the exterior problem of a product like the first magnetic tape from the constraint on the specification as a bar code 104. That is, in the second magnetic tape cartridge, the bar code 104 as a discernment display cannot be considered as printing which is not conspicuous since it not only cannot print not much small on specification, but a discernment function cannot be achieved if contrast does not clarify, either. Especially, since it was going to save backup data to the smallest possible space in the magnetic tape cartridge for computers, the recent-years miniaturization was progressing, and \*\*\*\*\* which attaches a discernment display as a matter of fact was not made.

[0007] Furthermore, there are not few cases where misreading is produced by the first magnetic tape cartridge in automatic reading of a discernment display [ in / because of the technical difficulty for / an alphanumeric alphabetic character / identifying as an alphabetic character / a production process ].

[0008] Then, securing the reliability of the quality of the whole product, the technical problem of this invention can also secure the appearance of a product including the discernment display which is small and is not conspicuous, and is to offer a magnetic tape cartridge which does not produce misreading in automatic reading of the discernment display in a production process moreover.

[0009]

[Means for Solving the Problem] That is, a magnetic tape cartridge concerning this invention is characterized by coming to give said cartridge case a two dimensional code as a discernment display in a magnetic tape cartridge which it comes to hold a tape reel around which a magnetic tape was looped in a cartridge case, enabling a free revolution.

[0010] Securing the reliability of quality of the whole product, since [ according to this invention ] identification information of a proper with an indispensable quality control top is displayed by two dimensional code, appearance of a product including a discernment display which is small and is not conspicuous can also be secured, and offer of a magnetic tape cartridge which does not produce misreading in automatic reading of a discernment

display in a production process, either is attained.

[0011] In such technical means, a two dimensional code is an information code given to a cartridge case as a discernment display, and information in which optical reading is possible is located in a line with two-dimensional [ of X and Y ].

[0012] In addition, all the acts that display a two dimensional code on a cartridge case as a discernment display, such as pasting up an object which displays a two dimensional code not only on printing a two dimensional code but on a cartridge case on a cartridge case, are included in \*\*\*\*\* which gives a two dimensional code to a cartridge case.

[0013]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained to details based on an accompanying drawing.

[0014] The perspective diagram showing the outline configuration of the magnetic tape cartridge which drawing 1 requires for the gestalt of 1 operation of this invention, the plan showing the details configuration of a two dimensional code [ in / in drawing 2 / this magnetic tape cartridge ], and drawing 3 are the cross sections showing the details configuration of the two dimensional code in this magnetic tape cartridge.

[0015] Although it is the magnetic tape cartridge for backup used as a record medium in the record regenerative apparatus of a computer, the magnetic tape cartridge in the gestalt of this operation is constituted as a fairly small magnetic tape cartridge, as a result of a miniaturization progressing considerably.

[0016] Specifically, this magnetic tape cartridge consists of the cartridge case 1, a magnetic tape 2, a single tape reel 3, and a two dimensional code 4 as a discernment display, as shown in drawing 1 . Hereafter, each component is explained to details.

[0017] (1) Cartridge case 1 cartridge case 1 plays the role which holds a tape reel 3 free [ a revolution ] inside, as shown in this drawing.

[0018] As shown in this drawing, this cartridge case 1 is a flat box which presents an abbreviation square by plane view, and, specifically, unifies top case 1a and bottom case 1b by the bis-stop (outside of a graphic display).

[0019] In addition, opening 1c for pulling out the magnetic tape 2 constituted free [ closing motion ] with the slide door (outside of a graphic display) is established by the 1 side-attachment-wall section of a cartridge case 1.

[0020] (2) In plastic material, the magnetic tape 2 magnetic tape 2 kneads magnetic powder materials, such as ferric oxide, to homogeneity, is full, form it in the film of fixed width of face, and use it for magnetic record of data, such as voice, an image, and a sign.

[0021] As shown in this drawing, specifically, the tape reel 3 which carries out a postscript is looped around this magnetic tape 2. And reader pin 2a is prepared in the free edge of this magnetic tape 2. Thereby, the drawer by the tape loading mechanism of a record

regenerative apparatus (outside of a graphic display) is possible for this magnetic tape 2.

[0022] (3) Tape-reel 3 tape reel 3 plays the role which loops around the magnetic tape 2 which was described above.

[0023] This tape reel 3 is held free [ a revolution ] in the cartridge case 1, as described above. And when a magnetic tape cartridge is set in a record regenerative apparatus, and the drive (outside of a graphic display) of a record regenerative apparatus works, it positive-rotates or this tape reel 3 rotates reversely. At this time, when the tape loading mechanism (outside of a graphic display) of a record regenerative apparatus works [ this drive ], through opening 1c, the magnetic tape 2 around which this tape reel 3 was looped will be pulled out from a tape reel 3, or will be rolled round by the tape reel 3.

[0024] (4) As shown in this drawing, as a discernment display, the 42-dimensional two dimensional code code 4 is the object which performs optical automatic reading by the machine chiefly, and is printed by the upper surface edge of cartridge case 1 top case 1a.

[0025] In this drawing, it is quite obvious that the area-rate that a two dimensional code 4 occupies in a magnetic tape cartridge is very low also in this product with which the miniaturization is progressing considerably (as for a two dimensional code 4, a length of one side fully achieves a function even 1mm - about several mm). So, in this magnetic tape cartridge, it can be said that the appearance of the product containing small identification information is secured. That is, the appearance of the product containing such small identification information does not become barring a consumer's attractiveness to consumers so that the design of a product may not be spoiled. in addition -- as such a two dimensional code 4 -- for example, the CP code and a data code -- there are a code, the QR code, PDF417, a KARURA code, a maxi code, etc. very.

[0026] Moreover, since the cartridge case 1 is black, the boundary of the upper surface of top case 1a and surface-layer 4a is hardly conspicuous, although white coloring layer 4b is drawn as a mosaic pattern in surface-layer 4a which seems to be shown in drawing 2 as a square black frame as for this two dimensional code 4 actually. So, in this magnetic tape cartridge, it can be said that the appearance of the product containing the identification information which is not conspicuous is secured. That is, the appearance of the product containing such identification information that is not conspicuous does not serve as what affects it to the design of a product, or a consumer's attractiveness to consumers, either.

[0027] In addition, the identification information which consists of black in this two dimensional code 4 and a white pattern was recorded by the method of leaving coloring layer 4b for surface-layer 4a after spreading and by laser radiation in the black coatings on coloring layer 4b applied to the cartridge case 1 in the white coatings, and removing the coating of surface-layer 4a, as shown in drawing 3 . That is, since a thick film is not stuck but a coating with very thin thickness is only applied, the appearance of a product can say

that there is little effect which it has on the design of a product or a consumer's attractiveness to consumers also at this point.

[0028] In this two dimensional code 4, the identification information of a proper with an indispensable quality control top is displayed with black and a white pattern. That is, the two dimensional code 4 containing such identification information is used for quality control in the production process of a magnetic tape cartridge. So, in a production process, a two dimensional code 4 is suitably read for every volume, and the quality can be controlled quality, identifying and specifying a product, and it is possible for this to hold the reliability of the quality of the whole product highly. Such two dimensional codes 4 are X and an information code to which information is located in a line with two-dimensional [ of Y ], and, unlike the alphanumeric alphabetic character, are made for the purpose of performing optical automatic reading with a machine chiefly. Therefore, the situation which produces misreading also as performing automatic reading of such a two dimensional code 4 in a production process cannot hardly happen.

[0029] In addition, there is also an advantage that it can print with various printing methods in a two dimensional code 4, as a discernment display. For example, it is possible not only laser but to adopt an ink jet method and a printing method like a pin dot.

[0030] Since the identification information of a proper with an indispensable quality-control top was displayed by the two dimensional code 4 which consists of black and a white pattern according to the magnetic tape cartridge concerning the gestalt of this operation as explained above, it not only became possible to reconcile the reliability of the quality of the whole product, and the appearance of a product including the discernment display which is small and is not conspicuous, but misreading will be produced in automatic reading of the two dimensional code 4 in a production process.

[0031]

[Effect of the Invention] Securing the reliability of the quality of the whole product according to this invention, the appearance of a product including the discernment display which is small and is not conspicuous can also be secured, and it becomes possible to offer a magnetic tape cartridge which does not produce misreading in automatic reading of the discernment display in a production process, either.

#### [Brief Description of the Drawings]

[Drawing 1] It is the perspective diagram showing the outline configuration of the magnetic tape cartridge concerning the gestalt of 1 operation of this invention.

[Drawing 2] It is the plan showing the details configuration of the two dimensional code in the magnetic tape cartridge concerning the gestalt of 1 operation of this invention.

[Drawing 3] It is the cross section showing the details configuration of the two dimensional

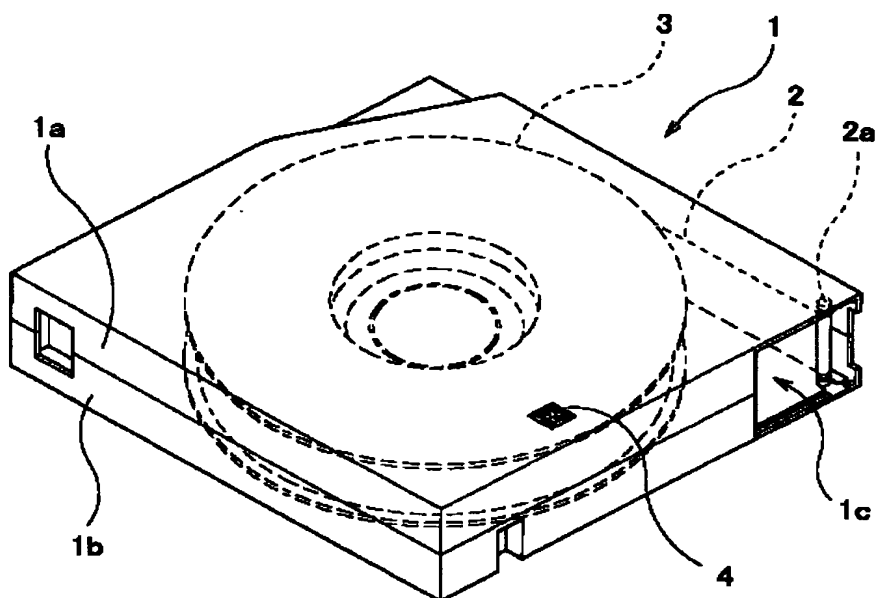
code in the magnetic tape cartridge concerning the gestalt of 1 operation of this invention.

[Drawing 4] It is the perspective diagram showing the outline configuration of the second magnetic tape cartridge which is the conventional example.

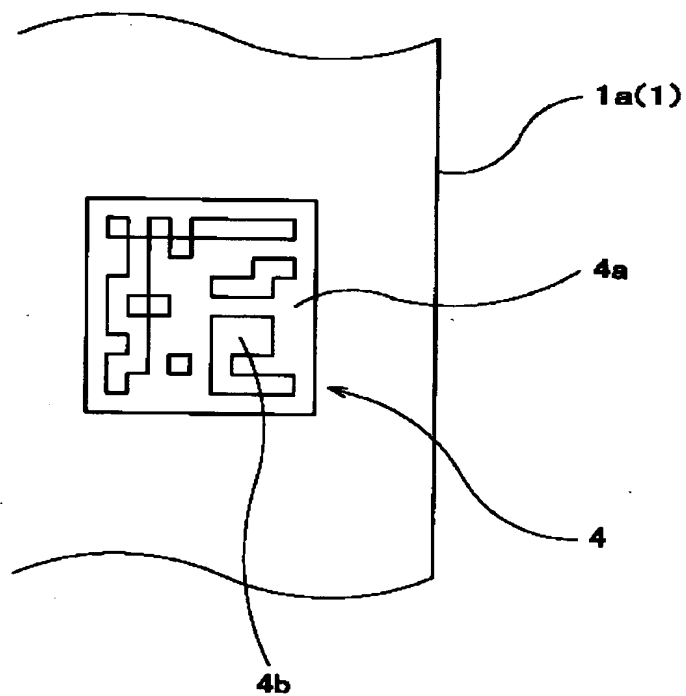
[Description of Notations]

- 1 -- Cartridge case
- 1a -- Top case
- 1b -- Bottom case
- 1c -- Opening
- 2 -- Magnetic tape
- 2a -- Reader pin
- 3 -- Tape reel
- 4 -- Two dimensional code
- 4a -- Surface layer
- 4b -- Coloring layer
- 101 -- Cartridge case
- 102 -- Magnetic tape
- 103 -- Tape reel
- 104 -- Bar code

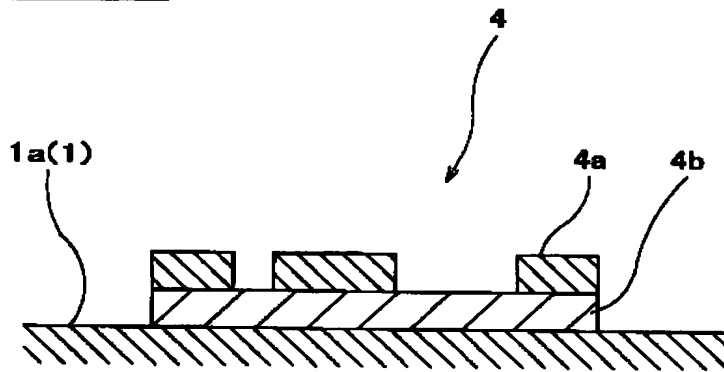
[Drawing 1]



[Drawing 2]



[Drawing 3]



[Drawing 4]

